

TRANSMITTAL FORM

Attorney Docket No.
P180/1062RCE

In re the application: **Eric C. ANDERSON**

Confirmation No: **2859**

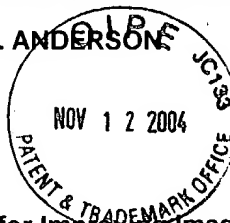
Serial No: **09/177,251**

Group Art Unit: **2615**

Filed: **October 22, 1998**

Examiner: **Aggarwal, Yogesh K. Technology Center 2600**

For: **Method and System for Improving Image Quality of Portrait Images Using a Focus Zone Shift**



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ENCLOSURES (check all that apply)

<input type="checkbox"/>	Amendment/Reply	<input type="checkbox"/>	Assignment and Recordation Cover Sheet	<input type="checkbox"/>	After Allowance Communication to Group
<input type="checkbox"/>	After Final	<input type="checkbox"/>	Part B-Issue Fee Transmittal	<input type="checkbox"/>	Notice of Appeal
<input type="checkbox"/>	Information disclosure statement	<input type="checkbox"/>	Letter to Draftsman	<input checked="" type="checkbox"/>	Reply Brief
<input type="checkbox"/>	Form 1449	<input type="checkbox"/>	Drawings	<input type="checkbox"/>	Status Letter
<input type="checkbox"/>	(X) Copies of References	<input type="checkbox"/>	Petition	<input checked="" type="checkbox"/>	Postcard
<input type="checkbox"/>	Extension of Time Request *	<input type="checkbox"/>	Fee Address Indication Form	<input type="checkbox"/>	Other Enclosure(s) (please identify below):
<input type="checkbox"/>	Express Abandonment	<input type="checkbox"/>	Terminal Disclaimer		
<input type="checkbox"/>	Certified Copy of Priority Doc	<input type="checkbox"/>	Power of Attorney and Revocation of Prior Powers		
<input type="checkbox"/>	Response to Incomplete Appln	<input type="checkbox"/>	Change of Correspondence Address		
<input type="checkbox"/>	Response to Missing Parts	*Extension of Term: Pursuant to 37 CFR 1.136, Applicant petitions the Commissioner to extend the time for response for xxxxx month(s), from to .			
<input type="checkbox"/>	Executed Declaration by Inventor(s)				

CLAIMS

FOR	Claims Remaining After Amendment	Highest # of Claims Previously Paid For	Extra Claims	RATE	FEE
Total Claims	31	31	0	\$18.00	\$ 0.00
Independent Claims	7	7	0	\$88.00	\$ 0.00
				Total Fees	\$ 0.00

METHOD OF PAYMENT

<input type="checkbox"/>	Check no. _____ in the amount of \$ _____ is enclosed for payment of fees.
<input type="checkbox"/>	Charge \$ _____ to Deposit Account No. _____ (Account Holder Name) for payment of fees.
<input checked="" type="checkbox"/>	Charge any additional fees or credit any overpayment to Deposit Account No. 02-2120 (Sawyer Law Group LLP).

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Attorney Name	Stephen G. Sullivan, Reg. No. 38,329
Signature	
Date	November 8, 2004

CERTIFICATE OF MAILING

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Attorney Docket: P180/1062RCE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPEAL NO:

In Re Application of:

Date: November 8, 2004

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For: METHOD AND SYSTEM FOR IMPROVING IMAGE QUALITY OF
PORTRAIT IMAGES USING A FOCUS ZONE SHIFT

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Technology Center 2600

APPELLANT'S BRIEF

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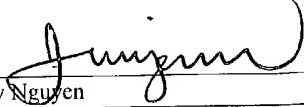
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Jinny Nguyen

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For: METHOD AND SYSTEM FOR IMPROVING IMAGE QUALITY OF
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Technology Center 2600

APPELLANT'S REPLY TO EXAMINER'S ANSWER

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Appellant herein files a Reply to the Examiner's Answer as follows:

I. ISSUES

The issues presented are:

(1) whether claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 are not unpatentable under 35 U.S.C. § 103 over U.S. Patent No. 6,067,114 (Omata) in view of U.S. Patent No. 4,826,301 (Ikemori) in further view of U.S. Patent No. 4,825,235 (Wakabayashi); and

(2) whether claims 3 and 12 are not unpatentable under 35 U.S.C. § 103 over Omata in view of Ikemori and Wakabayashi in further view of U.S. patent No. 5,825,016 (Nagahata); and

(3) whether claims 9, 22, 30, 36, 39, and 42 are not unpatentable under 35 U.S.C. § 103 as over Omata, Ikemori, Nagahata, and Wakabayashi.

III. ARGUMENTS

A. Summary of the Applied Rejections

In the Final Office Action, dated October 21, 2003 the Examiner rejected claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 as being unpatentable under 35 U.S.C. § 103 over Omata in view of Ikemori in further view of Wakabayashi. The Examiner also rejected claims 3 and 12 as being unpatentable under 35 U.S.C. § 103 over Omata in view of Ikemori and Wakabayashi in further view of Nagahata. Finally, the Examiner rejected claims 9, 22, 30, 36, 39, and 42 as being unpatentable under 35 U.S.C. § 103 as over Omata, Ikemori, Nagahata, and Wakabayashi.

In response to Appellant's Appeal Brief, in the Examiner's Answer, the Examiner stated:

"Improving the soft-tone effect" signifies that a soft-focus or soft-tone already achieved is not adequate. Ikemori moves a focusing lens to achieve a soft focus (col. 11 lines 54-57), Ikemori can only do this if it is determined that the focus zone can be shifted. Wakabayashi is relied upon for the broad teaching of improving an existing soft focus condition by manipulating only the aperture. Therefore, in the combination of Ikemori and Wakabayashi, Wakabayashi teaches setting the aperture size without shifting the focus zone because the focus zone has already been shifted in Ikemori. It is well known by photographers to vary both focusing and aperture to produce and overall desired soft-focus effect and thus the use of the technique in Wakabayashi following the lens movement in Ikemori would have been obvious to one skilled in the art. Thus, in the combination of Ikemori and Wakabayashi, if the soft tone effect provided in Ikemori is not adequate, one skilled in the art would be taught by Wakabayashi to then vary the aperture.

The Examiner further stated that “[t]he Examiner relies upon the combination of Omata, Ikemori and Wakabayashi to teach these features and not Ikemori alone. Therefore, in response to appellant’s arguments against the references individually, one cannot shown nonobviousness by attacking references individually where the rejections are based on combinations of references.”

Appellant respectfully requests that the Board reverse the Examiner’s final rejection of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 under 35 U.S.C. § 112, first paragraph, and the Examiner’s final rejection of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 under 35 U.S.C. § 103.

B. The Cited Prior Art

The cited prior art is described in Appellant’s Brief.

C. Claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 are not unpatentable under 35 U.S.C. § 103.

Appellant respectfully submits that the applied rejections of claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 under 35 U.S.C. § 103 are without merit as the Examiner has completely failed to explain why Omata in view of Ikemori in further view of Wakabayashi teaches or suggests the methods recited in claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41.

In particular, Appellant did not merely attack the references individually. Instead, Applicant argued that because *all* of the references failed to teach or suggest the same feature, any combination of the references must also be lacking this feature. Omata, Ikemori, and Wakabayashi all fail to describe setting the aperture size without shifting the focus zone after the focus zone has been shifted. Omata describes classifying objects in the image based upon

characteristics such as size and proximity, detecting compositional changes and altering the focus such that a continuous focus to ensure that the object the operator intends as the subject remains in focus. Omata, col. 1, line 40-col. 2, line 2. Ikemori describes a system that provides a soft focus by moving one of the lenses to introduce a spherical aberration into the image. Ikemori, col. 11, lines 34-40; Abstract, lines 5-11. The focus of the image is then readjusted using another lens. Ikemori, col. 3, lines 7-17. Wakabayashi describes changing the aperture size to improve the soft tone effect and decrease the depth of field as well as the use of a soft focus filter in order to provide a soft focus. Wakabayashi, col. 17, lines 32-34 and col. 18, lines 31-49. Wakabayashi also describes setting the aperture value “to be small (the aperture opening is large) to improve the soft-tone effect **by** decreasing the depth of field.” Wakabayashi, col. 18, lines 46-48 (emphasis added). Thus, Wakabayashi alters the size (or depth) of the focus zone not shifting the focus zone. Thus, as previously argued, although Omata, Ikemori, and Wakabayashi teach features of photographic composition, Omata, Ikemori and Wakabayashi all fail to describe setting the aperture size without shifting the focus zone after the focus zone has been shifted. Consequently, any combination of Omata, Ikemori, and Wakabayashi fail to teach or suggest the invention recited in varying scope in claims 1, 10, and 19.

Stated differently, if the teachings of Ikemori, Wakabayashi, and Omata are combined, the combination would classify objects and track compositional changes to keep the desired object(s) in focus, as in Omata. The combination could also provide a soft focus by moving the lenses, as in Ikemori. Once the soft focus is achieved using the teachings of Ikemori, the depth of field (size of the focus zone) could also be adjusted to improve the soft focus, using the teachings of Wakabayashi. Although an improved soft focus might be achieved using this combination, the combination would still fail to sett the aperture size without shifting the focus

zone after the focus zone has been shifted. Consequently, Omata in view of Ikemori in view of Wakabayashi fail to teach or suggest the method, image capture device and computer-readable medium recited in claims 1, 10, and 19. Accordingly, Appellant respectfully submits that claims 1, 10 and 19 are allowable over the cited references. Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 1, 10, and 19 under 35 U.S.C. § 103.

Claims 2, 4-7, 28, and 38 depend upon independent claim 1. Claims 11, 13-18, 34, and 40 depend upon independent claim 10. Claims 20-21 and 41 depend upon claim 19. Consequently, claims 2, 4-7, 11, 13-18, 20-21, 28, 32, 34, 38, and 40-41 are allowable for the same reasons discussed above with respect to claims 1, 10, and 19.

Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 1-2, 4-7, 10-11, 13-21, 28, 32, 34, 38, and 40-41 under 35 U.S.C. § 103.

D. Claims 3 and 12 are Not Unpatentable Under 35 U.S.C. § 103.

Appellant respectfully submits that the applied rejections of claims 3 and 12 under 35 U.S.C. § 103 as being unpatentable over Omata in view of Ikemori and Wakabayashi in further view of Nagahata are without merit. In particular, the Examiner has completely failed to explain why Omata in view of Ikemori, Wakabayashi, and Nagahata teaches or suggests the methods recited in claims 3 and 12.

Claims 3 and 12 depend on independent claims 1 and 10, respectively. Consequently, the arguments herein with respect to Omata, Ikemori, and Wakabayashi apply with full force to claims 3 and 12. In particular, as discussed above, Omata in view of Ikemori and Wakabayashi fail to teach or suggest adjusting the aperture size without shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone.

Nagahata fails to remedy the defects of Omata in view of Ikemori and Wakabayashi. Appellant can find no mention in Nagahata determining whether the focus zone can be shifted enough to ensure that certain object(s) are out of focus, shifting the focus zone if it is determined that the focus zone can be sufficiently shifted, and adjusting the aperture size without further shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone. Consequently, if the teachings of Nagahata were added to those of Omata, Ikemori, and Wakabayashi, the combination would still share the defects of the combination described above. Omata in view of Ikemori and Wakabayashi in further view of Nagahata, therefore, fail to teach or suggest the method and image capture device recited in claims 3 and 12.

Accordingly, Appellant respectfully submits that claims 3 and 12 are allowable over the cited references. Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 3 and 12 under 35 U.S.C. § 103.

E. Claims 9, 22, 30, 36, 39, and 42 are not unpatentable under 35 U.S.C. § 103.

Appellant respectfully submits that the applied rejections of claims 9, 22, 30, 36, 39, and 42 under 35 U.S.C. § 103 as being unpatentable over Omata in view of Ikemori and Wakabayashi in further view of Nagahata are without merit. In particular, the Examiner has completely failed to explain why Omata in view of Ikemori, Wakabayashi and Nagahata teaches or suggests the methods recited in claims 9 and 22.

Claims 9 and 22 recite a method and computer-readable medium, respectively, including a program having instructions for determining whether the focus zone can be sufficiently shifted so that certain object(s) are out of focus, so shifting the focus zone if it is determined that the focus zone can be sufficiently shifted, and adjusting the aperture size without shifting the focus zone if the desired soft focus can be achieved with a focus zone shift alone. The arguments herein thus

apply with full force to claims 9 and 22. Consequently, Omata in view of Ikemori and Wakabayashi in further view of Nagahata fails to teach or suggest the method and computer-readable medium recited in claim 9 and 22. In particular, the combination described above still functions in essentially the manner described above. Accordingly, Appellant respectfully submits that claims 9 and 22 are allowable over the cited references.

Accordingly, Appellant respectfully submits that claims 9, 22, 40, and 36 are allowable over the cited references. Accordingly Appellant respectfully requests that the Board reverse the final rejection of claims 9, 22, 30, and 36 under 35 U.S.C. § 103.

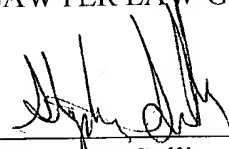
F. Summary of Arguments

For all the foregoing reasons, it is respectfully submitted that claims 1-7, 9-22, 28, 30, 32, 34, 36, and 38-42 (all the claims presently in the application) are patentable for defining subject matter which would not have been obvious under 35 U.S.C. § 103. Thus, Appellant respectfully requests that the Board reverse the rejection of all the appealed claims and find each of these claims allowable.

Note: For convenience of detachment without disturbing the integrity of the remainder of pages of this Reply Brief, Appellant's "APPENDIX" section is contained on separate sheets following the signatory portion of this Reply Brief.

This Reply is being submitted in triplicate, and authorization for payment of the required Reply fee is contained in the cover letter for this Reply. Please charge any fee that may be necessary for the continued pendency of this application to Deposit Account No. 02-2120 (Sawyer Law Group LLP).

Respectfully submitted,
SAWYER LAW GROUP LLP

A handwritten signature in black ink, appearing to read 'Stephen G. Sullivan', is written over a horizontal line.

Stephen G. Sullivan
Attorney for Applicant
Reg. No. 38,329
(650) 493-4540

November 8, 2004
Date

IV. APPENDIX

1. A method for capturing an image using an image capture device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, method comprising the steps of:

- (a) determining if the image matches at least one criteria;
- (b) determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria;
- (c) determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus; and
- (d) shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if it is determined that the focus zone can be shifted so that the at least one object is out of focus;
- (e) setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus; and
- (f) adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

2. The method of claim 1 wherein the step of determining if the image matches the at least one criteria (a) further includes the step of:

- (a1) determining the corresponding distance for each of the plurality of objects.

3. The method of claim 2 wherein the step of determining if the image matches the at least one criteria (a) further includes the step of:

(a2) categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching one of the at least one criteria if a first object in the foreground has a first corresponding distance and a second object in the background has a second corresponding distance.

4. The method of claim 1 further wherein the step of determining if the image matches the at least one criteria (a) further includes the step of:

(a1) separating the image into a plurality of zones;

(a2) analyzing the image in each of the plurality of zones to determine if the image matches the at least one criteria.

5. The method of claim 4 wherein the at least one criteria includes the size of a particular object of the plurality of objects and wherein the step of analyzing the image (a2) further includes the step of:

(a2i) determining the amount of each zone and a number of zones which the particular object occupies.

6. The method of claim 1 wherein the image includes a center and at least one criterion includes a location of a particular object of the plurality objects being in proximity to the center of the image.

7. The method of claim 1 wherein the step of shifting the focus zone (d) further includes the step of:

(d1) shifting the focus zone so that the at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

8. (Canceled)

9. A method for allowing an image having a center to be captured by an imaging device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the method comprising the steps of:

(a) determining if the image matches a plurality of criteria, the step of determining if the image matches the plurality criteria further including the steps of:

(a1) determining the corresponding distance for each of the plurality of objects;

(a2) categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching a first criteria of the plurality of criteria if a first object in foreground has a first corresponding distance and a second object in the background has a second corresponding distance;

(a3) separating the image into a plurality of zones;

(a4) analyzing the image in each of the plurality of zones to determine an amount of the image which each of the plurality of objects occupies, the image matching a second criteria of the plurality of criteria if the first object occupies a particular amount of the image;

(a5) analyzing the image in each of the plurality of zones to determine if the first object in the foreground is in proximity to the center of the image, the image matching a third criteria of the plurality of criteria if the first object is in proximity to the center of the image;

(b) determining whether the second object is out of focus if the image matches at least one criteria;

(c) determining a focus zone;

(d) determining whether the focus zone can be shifted so that that the at least one object is out of focus if the at least one object is not out of focus; and

(e) shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if the focus zone can be shifted so that the at least one object is out of focus;

(f) setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus; and

(g) adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

10. An image capture device for capturing an image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, the image capture device comprising:

means for determining if the image matches at least one criterion;

means for determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criteria;

means for determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus; and

means for shifting the focus zone, the focus zone shifting means shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus if it is determined that the focus zone can be so shifted;

means for adjusting an aperture size, the aperture size adjusting means setting the aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus and adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

11. The image capture device of claim 10 wherein means for determining if the image matches the at least one criteria further includes:

means for determining the corresponding distance for each of the plurality of objects.

12. The image capture device of claim 11 wherein the means for determining if the image matches the at least one criteria further includes:

means for categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching one of the at least one criteria if a first object in the foreground has a first corresponding distance and a second object in the background has a second corresponding distance.

13. The image capture device of claim 10 further wherein the means for determining if the image matches the at least one criteria further includes:

means for separating the image into a plurality of zones; and

means for analyzing the image in each of the plurality of zones to determine if the image matches the at least one criteria.

14. The image capture device of claim 13 wherein the at least one criteria includes the size of a particular object of the plurality of objects and wherein the means for analyzing the image further includes:

means for determining the amount of each zone and a number of zones which the particular object occupies.

15. The image capture device of claim 10 wherein the image includes a center and at least one criterion includes a location of a particular object of the plurality objects being in proximity to the center of the image.

16. The image capture device of claim 10 wherein the means for shifting the focus zone further includes:

means for shifting the focus zone so that the at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

17. The image capture device of claim 16 wherein the means for shifting the focus zone further includes:

means for adjusting the shifting of the focus zone so that the focus zone can be shifted so that at least one object is outside of the focus zone if the at least one of the plurality of subjects is not out of focus.

18. The image capture device of claim 1 wherein the image capture device is a digital camera.

19. A computer-readable medium containing a program for capturing an image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the image being associated with a focus zone, program including instructions for:

determining if the image matches at least one criterion;

determining whether at least one of the plurality of objects is out of focus if the image matches the at least one criterion;

determining whether the focus zone can be shifted so that that the at least one object is out of focus if the at least one object is not out of focus;

shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

20. The computer-readable medium of claim 19 wherein the instructions for shifting the focus zone further include instructions for:

shifting the focus zone so that the at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

21. The computer-readable medium of claim 20 wherein the instructions for shifting the focus zone further include instructions for:

adjusting the focus zone so that the focus zone can be shifted so that at least one object is outside of the focus zone if the focus zone can be shifted so that the at least one object is outside of the focus zone.

22. A computer-readable medium containing a program for capturing an image having a center to be captured by an imaging device, the image capable of including a plurality of objects, each of the plurality of objects being a corresponding distance from the imaging device, the program containing instructions for:

determining if the image matches a plurality of criteria, the instructions for determining if the image matches the plurality criteria further including instruction for:

determining the corresponding distance for each of the plurality of objects;

categorizing the plurality of objects as being located in a foreground or a background based on the corresponding distance, the image matching a first criterion of the plurality of criteria if a first object in foreground has a first corresponding distance and a second object in the background has a second corresponding distance;

separating the image into a plurality of zones;

analyzing the image in each of the plurality of zones to determine an amount of the image which each of the plurality of objects occupies, the image matching a second criterion of the plurality of criteria if the first object occupies a particular amount of the image;

analyzing the image in each of the plurality of zones to determine if the first object in the foreground is in proximity to the center of the image, the image matching a third criterion of the plurality of criteria if the first object is in proximity to the center of the image;

determining whether the second object is out of focus if the image matches at least one criterion;

determining a focus zone;

determining whether the focus zone can be shifted so that the at least one object is out of focus if the at least one object is not out of focus; and

shifting the focus zone so that the at least one object is out of focus if at least one of the plurality of subjects is not out of focus and if the focus zone can be shifted so that the at least one object is out of focus;

setting an aperture size without shifting the focus zone after the focus zone has been shifted if it is determined that the focus zone can be shifted so that the at least one object is out of focus;

adjusting the aperture size to shorten the focus zone if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. The method of claim 1 further comprising the step of:

(g) setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

29. (Canceled)

30. The method of claim 9 further comprising the step of:

(h) setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

31. (Canceled)

32. The image capture device of claim 10 wherein the focus zone shifting means further set the focus zone location based on the aperture size if the aperture has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least

one object is out of focus.

33. (Canceled)

34. The computer-readable medium of claim 19 wherein the program further includes instructions for:

setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

35. (Canceled)

36. The computer-readable medium of claim 22 wherein the program further includes instructions for:

setting the focus zone location based on the aperture size if the aperture size has been adjusted to shorten the focus zone if it is determined that the focus zone cannot be shifted so that the at least one object is out of focus.

37. (Canceled)

38. The method of claim 1 wherein the aperture-adjusting step (f) further includes the step of:

(f1) adjusting the aperture size to shorten the focus zone only if it is determined that

shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

39. The method of claim 9 wherein the aperture-adjusting step (g) further includes the step of:

(g1) adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

40. The image capture device of claim 10 wherein the aperture adjusting means further adjust the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

41. The computer-readable medium of claim 19 wherein the aperture-adjusting instructions further include instructions for:
adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.

42. The computer-readable medium of claim 22 wherein the aperture-adjusting instructions further include instructions for:

adjusting the aperture size to shorten the focus zone only if it is determined that shifting the focus zone alone is not sufficient for the at least one object to be out of focus.